movements of the heart. In spite of all this, they quickly recover if the inhalation is stopped, without vomiting or other unpleasant symptoms. Of thirty deeply narcotized dogs only two died. The vessels of the brain, observed through an opening in the skull, are dilated at the beginning of inhalation, but they contract and leave the brain anæmic when the animal is narcotized, just as they do in animals under chloroform or ether.

The anæsthetic effect of the aldehyd on human beings has been as yet very little investigated, but it is doubtful whether its properties of arresting the breathing, and its irritating action on the lungs and stomach, will not seriously interfere with any attempt to employ it in surgical operations.—*Med. Times and Gaz.*, Sept. 18, 1875.

9. *Therapeutic Use of Bromhydrate of Quinia.*—According to Prof. GUBLER, this preparation has special properties which belong neither to bromine nor to quinia separately, but which seem to result from their combination. Like sulphate of quinia, the bromhydrate lessens calorification, diminishes combustion, contracts the capillaries, and augments vascular tension; but acts less on the organ of hearing.

His conclusions are as follows:—

1. The bromhydrate of quinia corresponding to the sulphate of the same base, is more soluble and richer in the alkaloid than the latter.

2. It possesses the physiological properties of the salts of quinia in general, and probably also the therapeutic properties of its officinal congener.

3. Nevertheless the action of the bromhydrate seems to differ from that of the sulphate, not only by inducing less quinia intoxication, but also by producing a marked tendency to nervous sedation and hypnotism.

4. These properties indicate its special use in the treatment of congestive and febrile affections of the nervous system; neuralgia, neuritis, irritative neuroses, encephalic hyperæmia, etc., and for the relief of which excellent results have already been obtained.

5. The bromhydrate of quinia has shown remarkable power in obstinate vomitings, it has been useful in many cases ordinarily amenable to the sulphate of quinia, visceral or articular fluxions of diathetic, rheumatic, or gouty origin, symptomatic fevers, from cold, etc.

6. This new medicine has been given in doses of 40 centigrammes to 1 gramme a day in portions of 20 centigrammes, sometimes in pilular form, sometimes in hypodermic injections.

7. Injected into the cellular tissue, the bromhydrate of quinia is entirely unirritating. In no case, has a hypodermic injection of 20 centigrammes of it, equivalent to 30 centigrammes of the sulphate, been followed by the slightest inflammation, and on the following day there was no redness or tumefaction at the seat of puncture.

8. This perfect innocuousness, with its greater solubility, is an undoubted advantage of this new salt of quinia, and renders it especially preferable whenever it is desirable to administer quinia hypodermically.—*Gaz. Hebdom.*, Sept. 17, from *Journal de Thérapeutique,* July 10 and Sept. 10, 1875.

10. *Hypodermic Injection of Nutritious Substances.*—Dr. KREUG gives an account of a trial of this which he has recently made. Drs. Menzel and Perco, he observes, were the first persons who tried, in 1869, some experiments on dogs on the absorption of articles of nutriment by the subcutaneous tissue, and found that an ounce of fluid fat was by the end of forty-eight hours completely absorbed without inducing any peculiar symptoms of reaction. The same was observed with regard to a solution of sugar, milk, and even the yelk of egg. Only one experiment seems to have been tried on man, and that only with nine grains. These authors state also that Stricker and Oser had made experiments with the peptons.

Dr. Kreug observes that cases are always being met with in which artificial feeding is necessary, but cannot be executed by the ordinary means; and it may be required on various occasions to sustain life, at all events temporarily, until other means, for the time inapplicable, can again be resorted to. There are no data for stating how long the functions of the stomach may be superseded by subcutaneous injections; but, at all events, this is possible for several weeks, during which time other measures may be resorted to. In illustration of this the following case is related:—

C. E., aged fifty-seven, a Hungarian proprietor, has been in an asylum at Ober-Döbling since 1868, and for the purpose of suicide had often refused all food, so that for twenty-seven months at a time he had to be daily fed by means of the tube; of late he has been more inconstant in his refusals, sometimes eating even abundantly, and at others allowing himself to be fed. On January 18, however, he began again to absolutely refuse food, and so continued, with the exception of one day, to the 24th, when it was resolved to feed him by the tube as heretofore; but all attempts to pass this proved fruitless, such violent coughing and irritation did it cause, so that the patient became breathless and cyanotic. Even when the tube was got into the stomach, the fluid injected was immediately expelled again by its side; so that the whole procedure, inducing so much suffering, proved useless. As ten days had elapsed without his taking any food, with the exception of some soup once, it was resolved to try the subcutaneous injection, under the hope that a slight quantity of nutriment might be so supplied, so as to ward off danger to life, and perhaps exert a favourable impression on the patient when he found his resistance unavailing. Olive oil was the substance injected, the syringe employed holding fifteen cubic centimetres. To the syringe was attached a thin caoutchouc tube, terminated by the canula of an ordinary subcutaneous syringe; so that the movements of the patient did not derange the working of the apparatus. One or two syringes full were injected daily; therefore from fifteen to thirty cubic centimetres of oil. At first each syringe-full was thrown into five apertures, but afterwards into three, or even only two. The oil passed drop by drop out of the canula, so that at first an hour, and afterwards half an hour, was occupied in the emptying of each syringe. This slow procedure rendered the injection painless, and prevented reaction, which, as well as pain, was caused. when the injection was made too rapidly, or too much fluid thrown into one spot. Most of the injections were made in the foot, some in the belly, and others in the sides. Some effect was produced upon the patient's moral condition, so that he partially abandoned his opposition to food. Thus, during thirty-nine days, he completely fasted during nine, ate voluntarily during ten, and was supported by the injections during the other twenty. It was not possible to weigh him, but his general appearance was not changed for the worse. With some occasional exceptions, when the injections were resumed, the patient gradually abandoned his resistance, and at last ate in a natural way, the experiment lasting altogether about two months. The chloroform odour characteristic of fasting persons disappeared soon after the first injection.—*Med. Times and Gaz.*, Sept. 25, from *Wiener Med. Wochenschrift*, Aug. 31, 1875.

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11. *The Question of Transfusion.*—Prof. P. L. PANUM, of Copenhagen, has felt called upon to review the question of transfusion, because his former conclusions have been controverted. He published two articles on the subject in vols. xxvii. and xxix. of Virchow's *Archiv*, the effect of which seemed to be that the use of human defibrinated blood superseded the blood of other animals, especially that of the calf, lamb, etc., which had been recommended by Brown-Séquard. In 1873, however, Gesellius and Hasse have reasserted the advantages to be gained by the direct transfusion of the blood of certain animals. In the present article the author considers, first, the indications for the use of transfusion; and secondly, the method and kind of blood to be employed.

It has been proved by experiment that an animal cannot live without the supply of fresh nourishment by the alimentary canal. Blood transfused into the vessels does not take the place of food, and does not prevent an animal which is being starved from dying of inanition. The extra supply of blood corpuscles does not serve as nutriment, but seems rather to be deleterious, increasing the waste, apparently by using up an additional quantity of oxygen. Blood is to be regarded as a tissue which is used as the vehicle by which nourishment is carried to the other tissues, perhaps altering the constituents slightly